

CLAIMS

1. A remote station apparatus comprising:
 - a quality measurement unit for iteratively measuring link quality of a communication link;
 - a quality message processing unit for generating a quality message based on the measured link quality and for generating a parity check corresponding to the quality message; and
 - a differential analyzer for determining changes in the measured link quality.
2. The remote station of claim 1, wherein the link quality is measured as carrier to interference of a received signal.
3. The remote station of claim 2, wherein the quality measurement unit generates a quality metric, and wherein the remote station applies a sector cover to the quality metric.
4. In a wireless communication system, a method comprising:
 - generating quality messages at a first frequency, the quality messages providing information on the quality of a communication link; and
 - generating a parity check for each of the quality messages.
5. The method of claim 5, further comprising:
 - generating differential indicators at a second frequency, the differential indicators indicating changes in the quality of the communication link, wherein the second frequency is greater than the first frequency.
6. The method of claim 5, wherein each quality message includes carrier to interference information of a received signal at a receiver.

7. The method of claim 4, wherein each differential indicator is at least one bit.
8. In a wireless communication system, a method comprising:
 - estimating a channel condition over a first time window;
 - comparing the estimated channel condition to a first threshold value;
 - determining a transmission rate for transmission of quality messages based on the comparison; and
 - transmitting quality messages at the transmission rate.
9. The method as in claim 8, wherein the first time window is dynamically adjusted based on operation of the system.
10. The method as in claim 8, further comprising:
 - calculating an average channel condition; and
 - calculating variance of the channel condition.
11. A wireless apparatus, comprising:
 - means for estimating a channel condition over a first time window;
 - means for comparing the estimated channel condition to a first threshold value;
 - means for determining a transmission rate for transmission of quality messages based on the comparison; and
 - means for transmitting quality messages at the transmission rate.
12. In a wireless communication system for processing voice communications and packet-switched communications, a base station comprising:
 - receive circuitry operative to receive signals on a reverse link, including a quality message with a parity check, and differential indicators, the quality message periodically providing a quality metric of a forward link, wherein the differential indicators track the quality metric between successive quality messages;
 - a memory storage unit operative to store a quality message received on the reverse link; and

a differential analyzer to update the quality message stored in the memory storage unit in response to the differential indicators and the parity check.

13. A wireless apparatus, comprising:

processing unit, operative for executing computer-readable instructions; and
a memory storage unit adapted to store a plurality of computer-readable instructions for:
generating quality messages at a first frequency, the quality messages providing information on the quality of a communication link; and
generating a parity check for each of the quality messages.

14. The apparatus of claim 13, wherein the plurality of computer-readable instructions are further adapted for:

generating differential indicators at a second frequency, the differential indicators indicating changes in the quality of the communication link, wherein the second frequency is greater than the first frequency.

15. A wireless apparatus, comprising:

processing unit, operative for executing computer-readable instructions; and
a memory storage unit adapted to store a plurality of computer-readable instructions for:
estimating a channel condition over a first time window;
comparing the estimated channel condition to a first threshold value;
determining a transmission rate for transmission of quality messages based on the comparison; and
transmitting quality messages at the transmission rate.

16. In a wireless communication system, the wireless communication system supporting a plurality of carriers, a method comprising:

determining an average channel condition among the plurality of carriers;

comparing the average channel condition to a first threshold value;

determining a transmission rate for transmission of quality messages based on the comparison; and

transmitting quality messages at the transmission rate.

17. The method as in claim 16, further comprising:

assigning a weight to each of the plurality of carriers, wherein the average channel condition is a weighted average.

18. A wireless apparatus, comprising:

processing unit, operative for executing computer-readable instructions; and

a memory storage unit adapted to store a plurality of computer-readable instructions for:

determining a best channel condition associated with a first frequency; and

generating a quality message, the quality message including a quality indicator and a frequency indicator, the frequency indicator identifying the first frequency.

19. The wireless apparatus as in claim 18, wherein the frequency indicator is a pointer to select the first frequency from a plurality of predetermined frequencies.